

REG 02 JUN 2005

INTERNATIONAL SEARCH REPORT

International Application No
PCT/B 03/05303

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C09K11/06 H05B33/14 H01L51/20 H01L51/30 C07F9/02
C07D231/26

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C09K H05B H01L C07F C07D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02/20692 A (ISIS INNOVATION LIMITED, UK) 14 March 2002 (2002-03-14) * page 9, compounds 1-3, page 12, page 13, line 18 through page 16, line 9 *	1-23
X	GAO XI-CUN ET AL: "Photoluminescence and electroluminescence of a series of terbium complexes" SYNTHETIC METALS, ELSEVIER SEQUOIA, LAUSANNE, CH, vol. 99, no. 2, 12 February 1999 (1999-02-12), pages 127-132, XP002216364 ISSN: 0379-6779 * page 128, Fig. 2, page 129, Table 1, pages 130-131, point 3.4, Fig. 4 * ----- -/--	1-23

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

7 April 2004

Date of mailing of the international search report

21. 04. 04

Name and mailing address of the ISA

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	XIN, H. ET AL: "Photoluminescence and electroluminescence of the exciplex formed between a terbium ternary complex and N,N'-diphenyl-N,N'-bis(3-methylphenyl)-1,1'-diphenyl-4,4'-diamine" PHYSICAL CHEMISTRY CHEMICAL PHYSICS (2002), 4(23), 5895-5898, XP001180727 * page 5896, Fig. 1, page 5897, Table 1 *	1-23
X	WO 00/79616 A (SALATA OLEG VICTOROVICH;CHRISTOU VICTOR (GB); ISIS INNOVATION (GB) 28 December 2000 (2000-12-28) * page 9, chemical formula, Examples *	1-23
X	AKAMA, Y. ET AL: "Thermal decompositions of complexes of Al, Ga, In, Cr, Fe and Bi ions with 1-phenyl-3-methyl-4-benzoyl-5-pyrazolone" JOURNAL OF THERMAL ANALYSIS (1995), 44(5), 1107-12, XP009028919 * page 1107 *	1,2
X	DATABASE CA [Online] CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; FADEEVA, V. I. ET AL: "Mechanism of scandium and zirconium ion extraction by beta.-diketones and heptyl tetraethyldiamidophosphate" XP002276191 retrieved from STN Database accession no. 83:66217 * abstract, structural formulae * & IZVESTIYA AKADEMII NAUK SSSR, SERIYA KHIMICHESKAYA (1975), (3), 507-13, XP009028918	1-5

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Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful international Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: -

The initial phase of the search revealed a very large number of documents relevant to the issue of novelty. So many documents were retrieved that it is impossible to determine which parts of the claims may be said to define subject-matter for which protection might legitimately be sought (Article 6 PCT). For these reasons, a meaningful search over the whole breadth of the claims is impossible. Consequently, the search has been restricted to the compounds/devices explicitly disclosed in the application (Examples 1-8, Devices 1-4).

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2002020692 A	14-03-2002	AU 8429901 A WO 0220692 A1 GB 2384000 A US 2004027821 A1	22-03-2002 14-03-2002 16-07-2003 12-02-2004
WO 0079616 A	28-12-2000	AU 5548500 A WO 0079616 A1	09-01-2001 28-12-2000

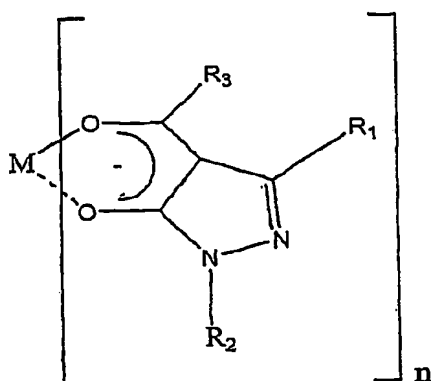
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Box III TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet).

An electroluminescent material is a metal complex of 1-phenyl-3-methyl-4-trimethylacetyl-pyrazol-5-one of formula (I):



(I)

An electroluminescent device comprising the compound of formula (I) in the luminescent layer is also part of the invention.